

## CLAIMS:

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent is:

1. A method for extending peer-to-peer remote copy system operations for transferring data contents written to a first storage system from a host device to a remote second storage system over a communications link, said method comprising:
  - a) setting a timer for a timeout period in which data contents written to said first storage system are to be transferred to said remote second storage system;
  - b) determining if a successful transfer of said data contents to said remote second storage system has occurred within said timeout period; and, if no successful transfer has occurred within said timeout period,
  - c) initiating generation of a busy signal for receipt by said host device to prevent suspension of data content transfer operations between said first storage system and said remote second storage system for an additional timeout period, wherein said host device at said first storage system is available to write new data contents to said first storage system for subsequent transfer to said remote second storage system after said additional time out period.
2. The method for extending peer-to-peer remote copy system operations as claimed in Claim 1, wherein prior to step c) and after said step b) the further step of: determining if time remains within said timeout period, and if time remains, continuing attempts to transfer said data contents to said remote second storage system.
3. The method for extending peer-to-peer remote copy system operations as claimed in Claim 1, wherein prior to step c) and after said step b) the further step of: determining if time remains within said timeout period, and if time does not remain, the further steps of:

incrementing a host retry counter for tracking a number of attempts to transfer data contents to said remote second storage system;

determining whether a number of host retries exceeds a maximum number of host retries,

wherein if the number of host retries does not exceed said maximum number of host retries, then initiating generation of a busy signal according to said step c).

4. The method for extending peer-to-peer remote copy system operations as claimed in Claim 3, further comprising incrementing said host retry counter according to a weighting factor, said weighting factor determined according to an error type contributing to said unsuccessful transfer within said timeout period.

5. The method for extending peer-to-peer remote copy system operations as claimed in Claim 3, wherein if the number of host retries exceeds said maximum number of host retries, said method further comprising the step of suspending said data content transfer operations between said first storage system and said remote second storage system.

6. A peer-to-peer remote copy system for transferring data contents written to a first storage system from a host device to a remote second storage system over a communications link, said system comprising:

a timer device for counting a timeout period in which data contents written to said first storage system are to be transferred to said remote second storage system over said link;

means for determining if a successful transfer of said data contents to said remote second storage system has occurred within said timeout period; and,

means for generating a busy signal for receipt by said host device to prevent suspension of data content transfer operations between said first storage system and said remote second storage system for an additional timeout period if no successful transfer has occurred within said timeout period, wherein said host device at said first

storage system is available to write new data contents to said first storage system for subsequent transfer to said remote second storage system after said additional time out period.

7. The peer-to-peer remote copy system as claimed in Claim 6, wherein if no successful transfer of said data occurs, said determining means further determining whether time remains within said timeout period, and if time remains, said system continuing attempts to transfer written data contents from a first storage system to said remote second storage system.

8. The peer-to-peer remote copy system as claimed in Claim 7, further comprising:  
a host retry counter means for tracking a number of attempts to transfer data contents to said remote second storage system; and,  
means for determining whether a number of host retry attempts exceeds a maximum number of host retries, said busy signal being generated upon determination that the number of host retries does not exceed said maximum number of host retries.

9. The peer-to-peer remote copy system as claimed in Claim 8, wherein said host retry counter means is incremented according to a weighting factor, said weighting factor determined according to an error type contributing to an unsuccessful transfer within said timeout period.

10. The peer-to-peer remote copy system as claimed in Claim 8, further comprising means for suspending said data content transfer operations between said first storage system and said remote second storage system upon determination that a number of host retries exceeds said max number of host retries.

11. A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for extending peer-to-peer remote copy system operations for transferring data contents written to a first

storage system from a host device to a remote second storage system over a communications link, said method steps comprising:

- a) setting a timer for a timeout period in which data contents written to said first storage system are to be transferred to said remote second storage system;
- b) determining if a successful transfer of said data contents to said remote second storage system has occurred within said timeout period; and, if no successful transfer has occurred within said timeout period,
- c) initiating generation of a busy signal for receipt by said host device to prevent suspension of data content transfer operations between said first storage system and said remote second storage system for an additional timeout period, wherein said host device at said first storage system is available to write new data contents to said first storage system for subsequent transfer to said remote second storage system after said additional time out period.

12. The program storage device readable by a machine as claimed in Claim 11, wherein prior to step c) and after said step b) the further step of: determining if time remains within said timeout period, and if time remains, continuing attempts to transfer said data contents to said remote second storage system.

13. The program storage device readable by a machine as claimed in Claim 11, wherein prior to step c) and after said step b) the further step of: determining if time remains within said timeout period, and if time does not remain, the further steps of:

incrementing a host retry counter for tracking a number of attempts to transfer data contents to said remote second storage system;

determining whether a number of host retries exceeds a maximum number of host retries,

wherein if the number of host retries does not exceed said maximum number of host retries, then initiating generation of a busy signal according to said step c).

14. The program storage device readable by a machine as claimed in Claim 13, further comprising incrementing said host retry counter according to a weighting factor, said weighting factor determined according to an error type contributing to said unsuccessful transfer within said timeout period.

15. The program storage device readable by a machine as claimed in Claim 13, wherein if the number of host retries exceeds said maximum number of host retries, the step of suspending said data content transfer operations between said first storage system and said remote second storage system.